Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Hydroprocessing Complex
ExxonMobil Refining and Supply Company
Baton Rouge, East Baton Rouge Parish, Louisiana
Agency Interest Number: 2638
Activity Number: PER20070023
Draft Permit 2447-V2

I. APPLICANT:

Company:
ExxonMobil Refining and Supply Company
P.O. Box 551
Baton Rouge, Louisiana 70821

Facility:
Hydroprocessing Complex
4045 Scenic Highway, Baton Rouge, East Baton Rouge Parish, Louisiana
Approximate UTM coordinates are 675.736 kilometers East and 3374.700 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS:

ExxonMobil Refining and Supply Company (ExxonMobil) owns and operates a petroleum refinery in Baton Rouge, Louisiana (BRRF). The Hydroprocessing is an existing facility in the refinery. Previously the facility operated under Permit No. 2447-V0 dated February 18, 2004. Currently the facility operates under Permit No. 2447-V1 dated May 18, 2006.

This permit serves as a renewal/modification to the Part 70 Title V Permit for the Hydroprocessing Complex.

Several Part 70 permits addressing portions of the facility have already been issued. These include:

Permit #	Units or Sources	Date Issued
2385-V4	Catalytic Cracking Complex	05/13/2008
2589-V3	Light Ends	04/11/2006
2176-V3	Low Sulfur Gasoline	04/11/2006
2275-V2	Pipestill Complex	10/10/2005
0840-00127-V3	Marketing Terminal	01/11/2007
2296-V2	Light Oils	08/06/2007
2261-V1	Reformer	02/02/2007
2341-V1	Specialties Complex	08/29/2007
2047-V1	Docks	04/11/2006
2363-V1	Water Clarification Unit (WCLA)	01/25/2007
2795-V3	Refinery Tank Farm	01/11/2007
2696-V0	Complex Labs	08/31/2005
2300-V0	Sulfur Plant	03/20/2006
3060-V0	Hydroprocessing Unit	01/18/2008

III. PROPOSED PERMIT / PROJECT INFORMATION:

Proposed Permit

ExxonMobil submitted an application and Emission Inventory Questionnaire (EIQ) dated December 12, 2007, requesting a Part 70 Permit renewal/modification.

A notice requesting public comment on the permit was published in *The Advocate*, Baton Rouge. A copy of the notice was mailed to concerned citizens listed in the Office of Environmental Services Public Notice Mailing List. The application and proposed permit were submitted to the East Baton Rouge Parish Library. The proposed permit was also submitted to US EPA Region 6. All comments will be considered prior to the final permit decision.

Project description

The Hydroprocessing consists of Hydrocracking (HCLA) and Hydrofining (HHLA-N, S, and E). The Hydrocracker area cracks heavy petroleum stocks using catalyst and hydrogen. The Hydroprocessing area consists of multiple trains (HHLA-N, S, and E). These trains remove sulfur and nitrogen compounds from Jet and Diesel blend stocks by a hydrogenation process using catalyst and hydrogen.

This permit updates the emission limits from the facility emission point sources based on updated emission factors and/or current facility conditions.

Permitted Air Emissions

Estimated emissions from the facility in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	14.51	13.81	–0.70
SO_2	27.23	25.13	–2.10
NO_x	62.12	58.61	–3.51
CO	79.74	78.21	–1.53
VOC	148.93	148.82	–0.11

Prevention of Significant Deterioration (PSD) Applicability

No modification is proposed, thus PSD does not apply.

MACT requirements

The facility meets MACT requirement by complying with the Louisiana Refinery MACT Determination through the Louisiana Fugitive Emission Consolidation program for the project fugitives. The proposed project will comply with the appropriate MACT requirements.

Air Modeling Analysis

Emissions associated with the proposed renewal/modification were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to Section VIII of the draft Part 70 permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

IV. Regulatory Analysis

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms conditions and standards are provided in the Facility Specific Requirements Section of the draft permit.

Prevention of Significant Deterioration (PSD) – Part 52

This permit does not include any modifications that require evaluation for PSD.

Non-Attainment New Source Review (NNSR) – Part 52

This permit does not include any modifications that require evaluation for NNSR.

New Source Performance Standards (NSPS) – Part 60

Subpart J: Standards of Performance for Petroleum Refineries

Currently HHLA E/F501 is subject to NSPS Subpart J. By December 31, 2008, process furnaces HCLA/F101, HHLA N/F401, and HHLA S/F201 will be subject to NSPS Subpart H per the ExxonMobil Consent Decree.

Subpart GGG: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

Fugitive emissions are subject to NSPS Subpart GGG. The control requirements of Subpart GGG are met for all fugitive sources in the Hydroprocessing Complex via compliance with the Louisiana Refinery MACT Determination.

National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories – Part 63

Subpart CC: Petroleum Refineries (Refinery MACT I)

Fugitive emissions are subject to NESHAP Subpart CC. The refinery complies via the Louisiana Refinery MACT Determination. All secondary wastewater streams at the Hydroprocessing Complex are Group 2 and are not regulated by Subpart CC.

Subpart GGGGG: Site Remediation MACT

BRRF is an affected facility for the Site Remediation MACT. Currently BRRF does not have any affected source subject to this MACT: process vents, equipment leaks, closed-vent systems/control devices, or continuous monitoring systems. Remediation Material Management Units (RMMUs) are used to manage remediation material generated from site remediation associated with unplanned releases. The BRRF uses a variety of containers as RMMUs. Existing tanks and/or separators which are potentially subject to

this Subpart are exempt from emission control requirements because these tanks and/or separators contain remediation material with an average total VOHAP < 500 ppm.

Containers are currently the only emission source (RMMU) subject to the emission control requirements of Subpart GGGGG. The HAP emissions associated with these RMMUs will be controlled according to the applicable standards of the MACT or will meet one of the provided exemptions.

Compliance Assurance Monitoring (CAM) – Part 64

Emission units at the Hydroprocessing Complex are not equipped with an add-on control device to achieve compliance with an emission limitation or standard. Therefore, CAM requirements are not applicable.

State Operating Permit Program (Title V) – Part 70

This permit is a renewal/modification permit and the application, submitted under the Louisiana Title V permitting program, contains all the elements as required under the Louisiana Title V regulations.

Control of Emissions of Nitrogen Oxides – Chapter 22

Furnace HHLA N/F401 is exempt from the provisions of this chapter. The remaining furnaces (HCLA/F101, HHLA S/F201, and HHLA E/F501 are included in the Facility Wide Averaging Plan and will not be modified to comply with the provisions of this chapter.

Comprehensive Toxic Air Pollutant Emission Control Program – Chapter 51

The toxic air pollutant emissions from fugitives, cooling towers and secondary wastewater must be controlled to a degree that constitutes MACT. The refinery complies with the Louisiana Refinery MACT Determination for fugitive emissions. Biweekly sampling for hydrocarbons is conducted at cooling towers. The secondary wastewater system complies with applicable provisions of NESHAP Subpart FF.

V. Permit Shields

A permit shield was not requested.

VI. Periodic Monitoring

No periodic monitoring is required.

VII. Applicability and Exemptions of Selected Subject Items

See Permit.

VIII. Streamlined Requirements

Unit	Program Being Streamlined	Stream Applicability	Overall Most Stringent Program
HYDRO/FUG	LA Refinery MACT LAC 33:III.2122 40 CFR 63 Subpart CC - modified HON option 40 CFR 60 Subpart GGG	5% VOTAP (class I and II) 10% VOC 5% VOHAP 10% VOC	LA Refinery MACT in the manner* agreed to be ExxonMobil in its approved Air Toxic Compliance Plan Approved April 18, 1996, per Source Notice and Agreement dated October 14, 1996.

*In lieu of the requirement to monitor connectors (that have been opened or had the seal broken) during the next scheduled monitoring period, connector tightness testing is currently performed prior to equipment startup. Tightness testing may consist of nitrogen pressure test, hydro testing, or high pressure steam. Tightness is verified by instrumentation or observation.

IX. Glossary

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

Carbon Monoxide (CO) – A colorless, odorless gas which is an oxide of carbon.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Hydrogen Disulfide (H_2S) - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to

ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10}- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.